

FIG. 1a

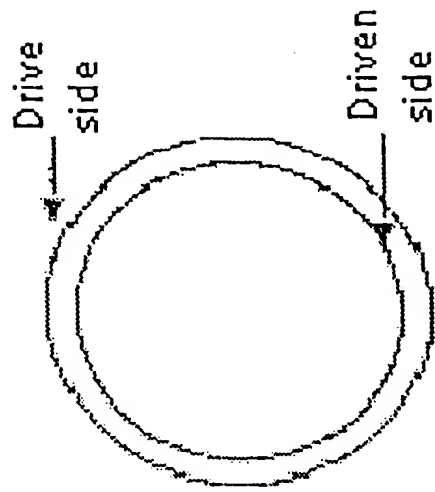


FIG. 1b

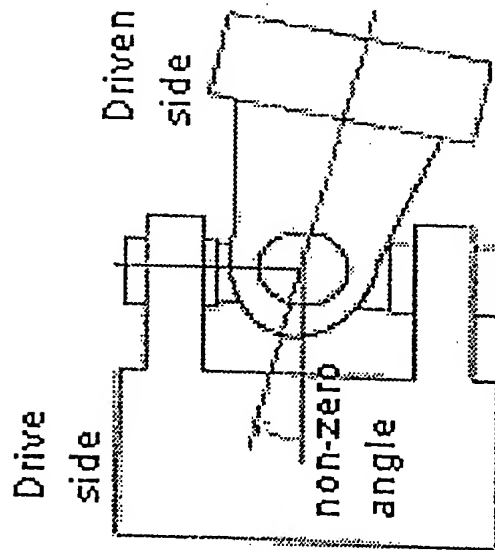


FIG. 2a

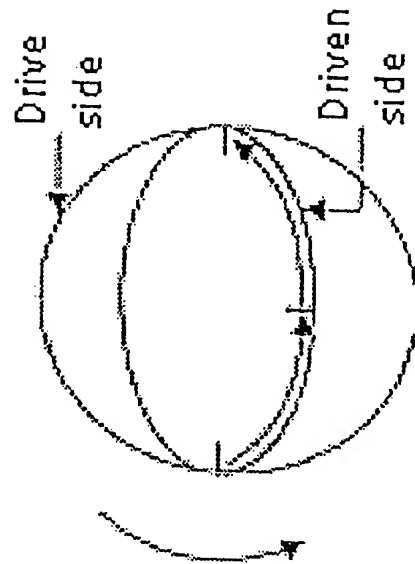


FIG. 2b

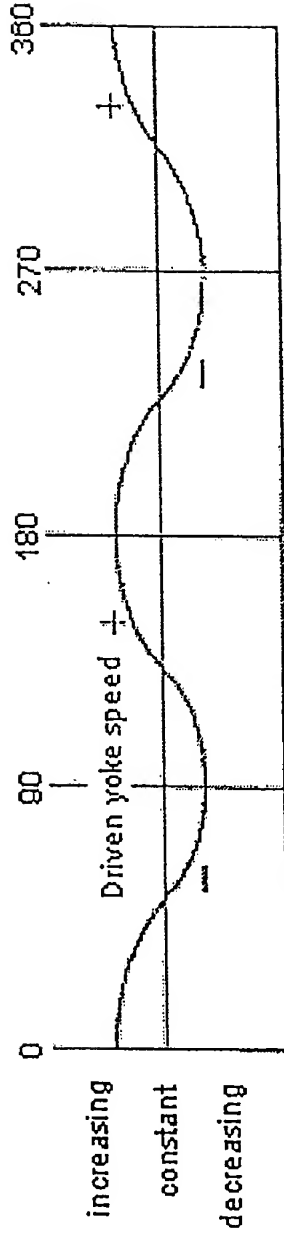


FIG. 3

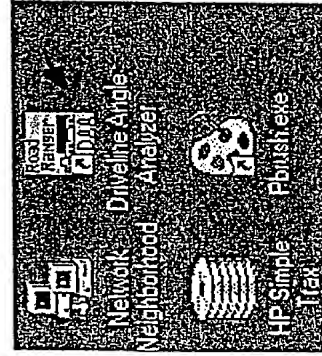


FIG. 4

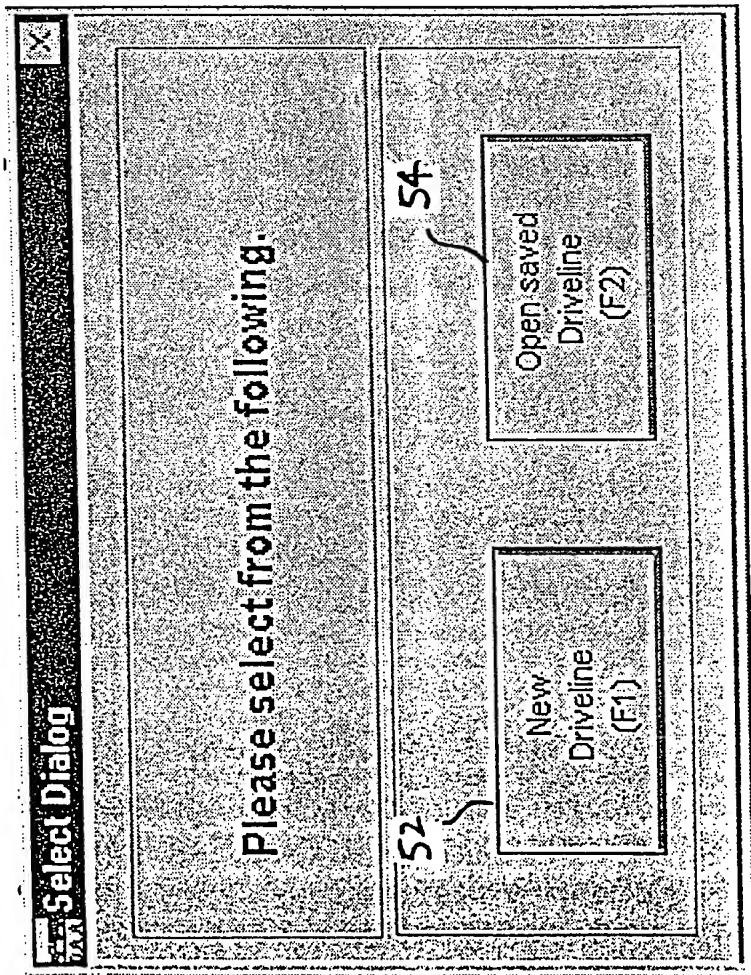


FIG. 5

60

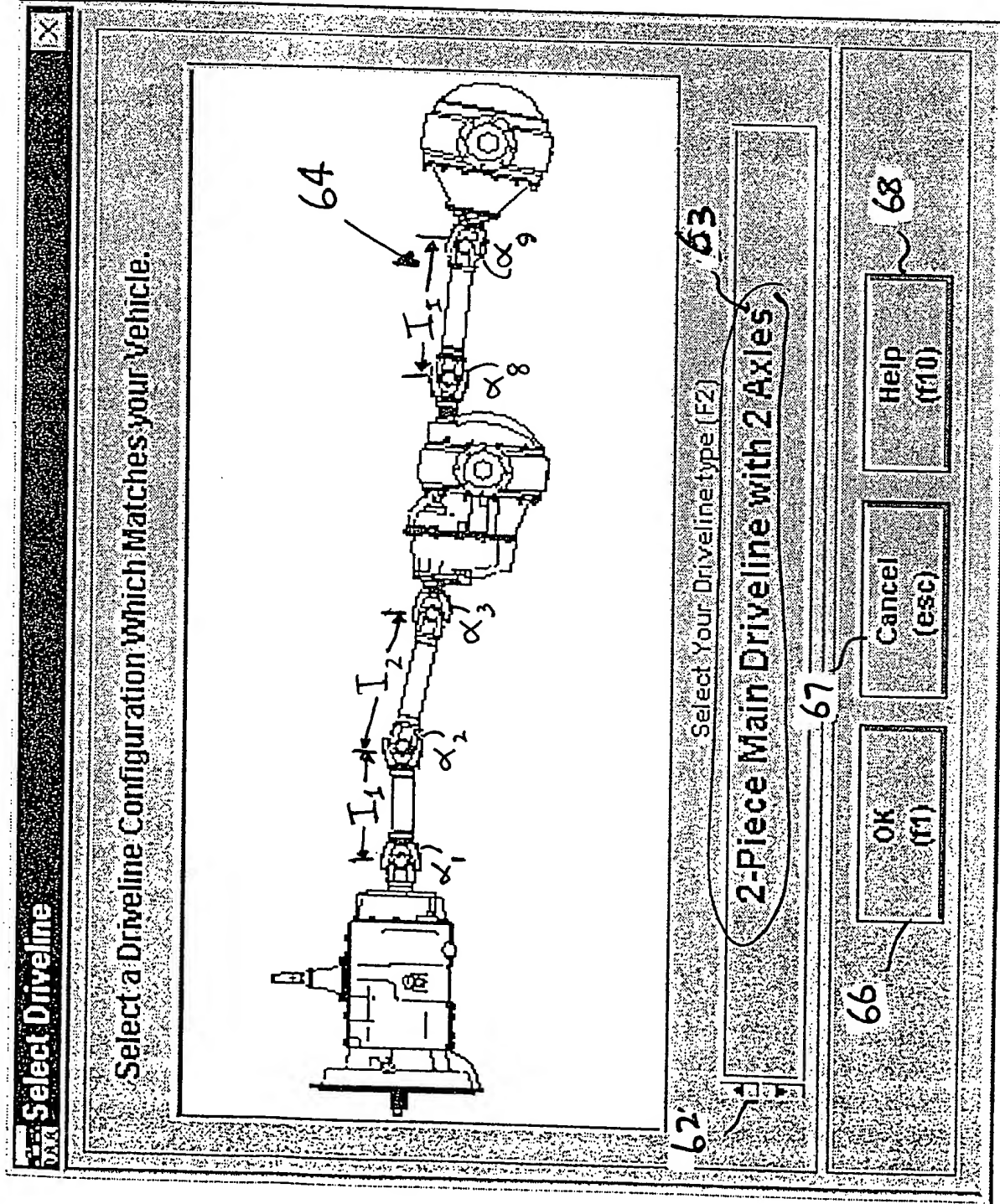


FIG. 6

70

Driveline Angle Analyzer

File Help

ROAD TEST
ENTER
DATA

Enter Vehicle Information

Note: Ref Fields are required for inertial calculations

79

Truck Unit # (F1):

Fleet Name:

Fleet Account #:

Truck Manufacturer:

Truck Model:

VIN #:

Trans Model #:

Trans Serial #:

Clutch Manufacturer:

Clutch Size:

Comments:

of Clutch Springs:

Clutch Part #:

Engine Make/Model #:

Wheel Base:

Steer/Axle Tire Size:

Drive Axle Tire Size:

Main Driveline Series:

< Select a Driveline Series >

Interaxle Driveline Series:

< Select a Driveline Series >

Axle Manufacturer:

< Select Axle Manufacturer >

D-Head Serial #:

R-Head Serial #:

Vehicle Mileage:

Vehicle Build Date:

Tested By:

77

78

71

72

73

74

75

76

New Driveline F2

Open F3

Save F4

Print Worksheet F5

Information F6

Measurements F7

Print Results F8

Directions F9

Help F10

Exit DAA Esc

FIG. 7

Worksheet

DriveLine Angle Analyzer

2-Piece Main with 2Axles

Before measuring Angles:

1. Lock front and rear wheels
2. Place bars in NEUTRAL
3. Release parking brake

Measurement Directions

To Measure Driveline Length:
All drive shaft angles are measured from the yoke end cap center.

To Measure Component Angles:
Positive angles (+) - Tie end closest to the motor the vehicle is higher than the end furthest from the motor the vehicle.

To check Driveline Phasing:
Driveline Phase is Zero degrees when the yoke end caps are aligned

Driveline Phase is 90 degrees when the yoke end caps are 90 deg

Driveline Phase is 180 degrees when the yoke end caps are 180 deg

Truck Unit #	Chassis Manufacturer	Main Driveline Series	Titled by
Truck Name	Chassis Size	Truck Driveline Series	Max engine RPM in top gear
Truck Account #	# of Chassis Springs	Auto Manufacturer	Top gear ratio of trans
Truck Manufacturer	Chassis Description	Auto Model #	
Truck Model	Engine Type	D-Head Serial #	
VIN #	Wheel Base	R-Head Serial #	
Truck Model #	Shoe Air Tire Size		
Truck Serial #	Drive Air Tire Size		

Print

F1

Cancel

Esc

89a 89b

FIG. 8

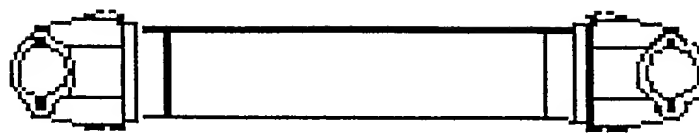


FIG. 9a

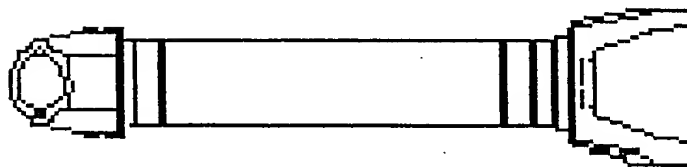


FIG. 9b

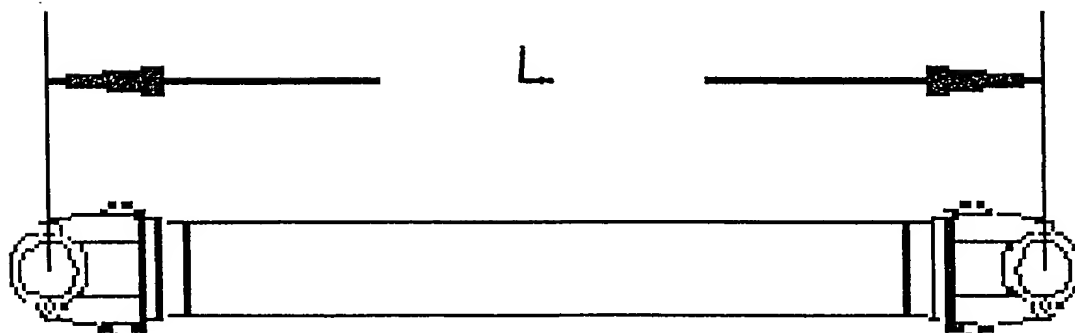


FIG. 10

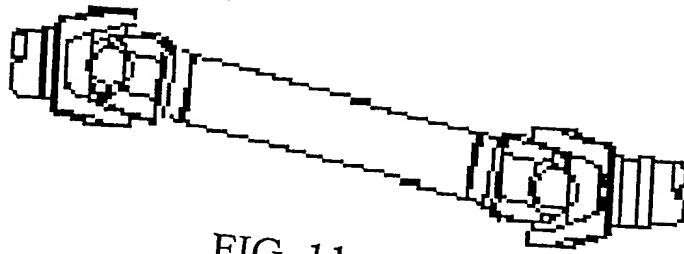


FIG. 11a

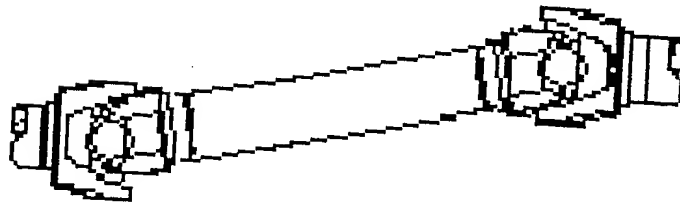


FIG. 11b

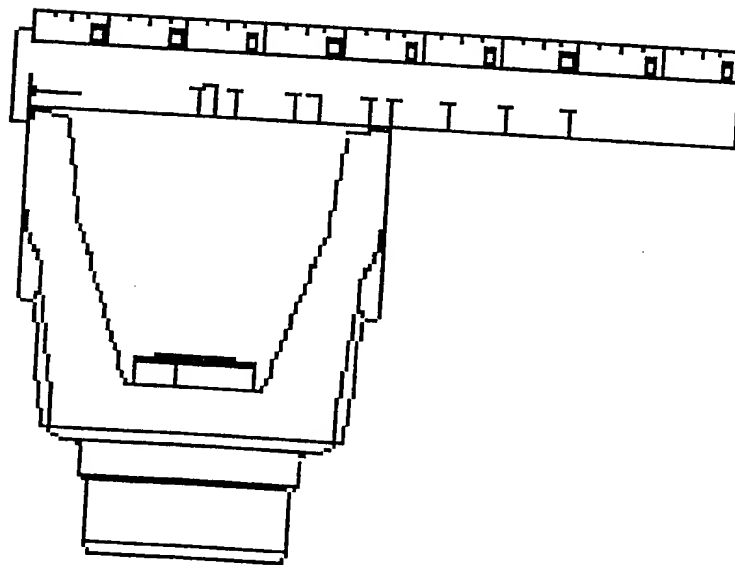


FIG. 12

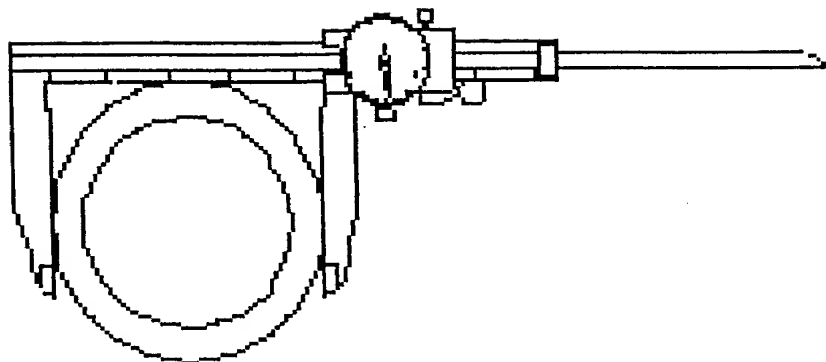


FIG. 13

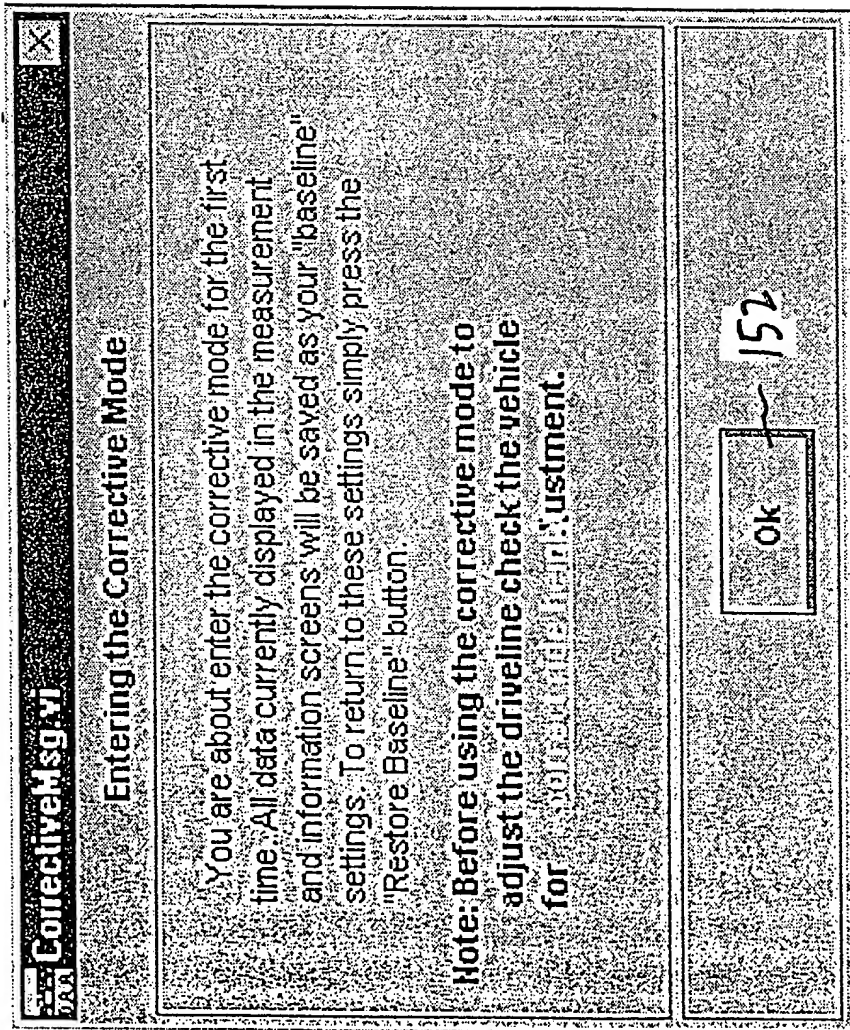


FIG. 15

[illegible]

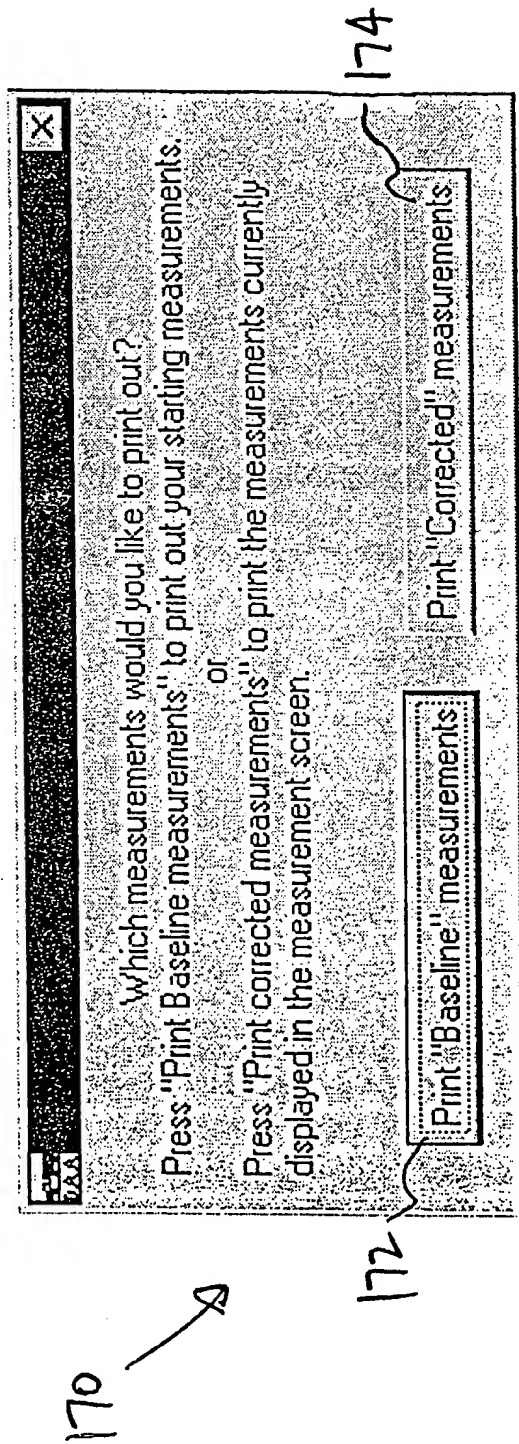



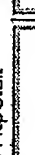
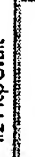
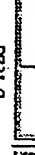
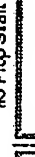
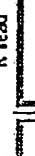
FIG. 17

Driveline Angle Analyzer

Vehicle Information:

Truck Unit#	After
Fleet Name	filling oil works fleet
Fleet Account #	the
Truck Manufacturer	teer
Truck Model	world
VIN #	the
Trans Model #	teer
Trans Serial #	all
Circuit Manufacturer	the
Circuit Size	vehicle
# of Circuit Springs	100
Circuit Part #	the
Engine Make/Model #	score
Wheel Base	
Ster Axle Tire Size	
Drive Axle Tire Size	
Math Drive Line Series	Spicer 1610
Math Drive Line Series	Spicer 1660
Ark Manufacturer (Domestic/Export)	Dana Spicer (Domestic/Export)
Ark Model #	101
D-Head Serial #	
R-Head Serial #	
Vehicle Weight	
Vehicle Build Date	
Tested By	

2-Piece Main Driveline with 2 Axles (Baseline)

Trans	#1 Prop Start	#2 Prop Start	D lead	#3 Prop Start	R lead
					
+10deg.	30deg Dpt	30deg Dpt	30deg.	00deg Dpt	49 Deg.

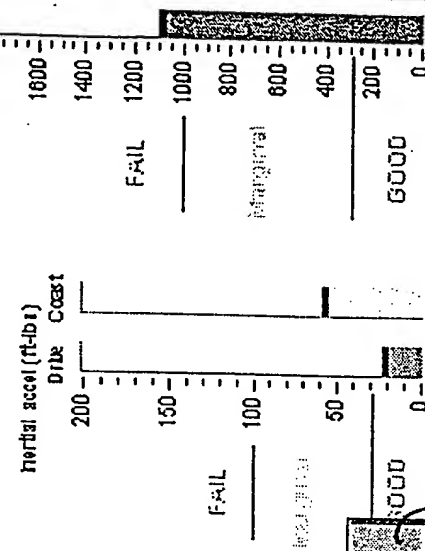
Fail This vehicle has exceeded the recommended maximum Torsional acceleration of 1000 rad/sec². The vehicle OBD should be consulted for correct driveline angles and ride heights.

Driveline Dimensions:

Angle	Phase	Length (in.)
Frame Angle: 0.00	0 deg	24.00
Transmission: 1.00	0 deg	24.00
#1 Prop Shaft: -3.00	0 deg	15.00
#2 Prop Shaft: 3.00	0 deg	
Head Aft: -3.00		
Brake Shaft: 0.00		
Rhead Aft: 9.00		

Driveline Results:

Part	RPM	rad/sec ²
Drive Inertial:	21.12	ft-lb
Cass Inertial:	56.93	ft-lb
Trans to D-Head	235.71	rad/sec ²
D-Head to R-Head	1080.68	rad/sec ²
Overall Result	1086.55	rad/sec ²



Comment:

The user would then enter all the measurements enter on

Print to printer(F1)
Print as bmp(F3)
Print as jpeg(F2)
Cancel (esc)

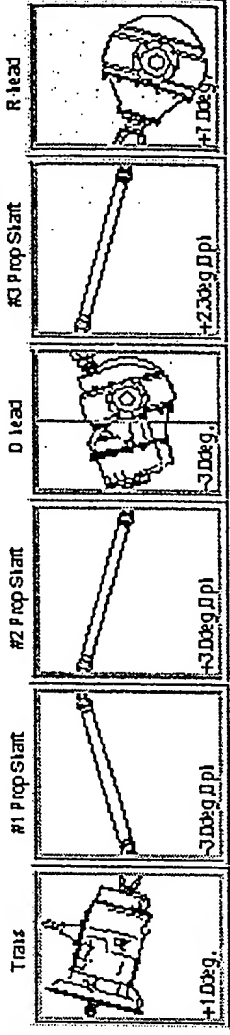


Driveline Angle Analyzer

Vehicle Information:

Truck Unit#	After
Fleet Name	Milling outworks
Fleet Account#	111
Truck Manufacturer	user
Truck Model	world
VIN #	111
Truck Model#	111
Truck Serial#	111
Chassis Manufacturer	111
Chassis Size	111
# of Chassis Springs	111
Chassis Part#	111
Engine Make/Model#	111
Wheel Base	111
Steer Axle Tire Size	111
Drive Axle Tire Size	111
Max Drive Line Series	Spicer 1610
Max Drive Line Series	Spicer 1620
Ark Manufacturer	Dana/Spicer (formerly Eab)
Ark Model#	111
D-Head Serial#	111
R-Head Serial#	111
Vehicle Mileage	111
Vehicle Build Date	111
Tested By	111

2-Piece Main Driveline with 2 Axles (Corrected)



Good

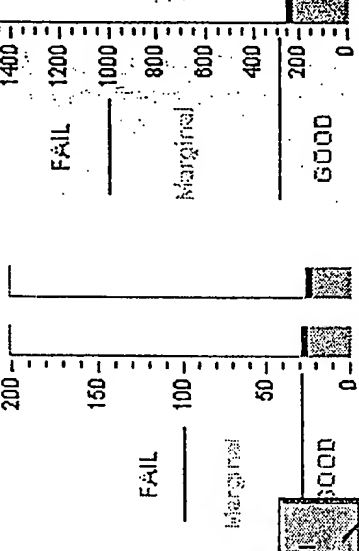
Driveline Dimensions:

Angle	Phase	Length (in.)
Frame Angle: 0.00		
Transmission: 1.00		
#1 Prop Shaft: -3.00	0 deg	24.00
#2 Prop Shaft: 3.00	0 deg	24.00
D Head Axis: -3.00		
Intermediate Shaft: 2.27	0 deg	14.87
R Head Axis: 7.00		

Driveline Results:

Max Driveline RPM:	RPM
Drive Inertia:	27.25 ft-lb
Coast Inertia:	25.04 ft-lb
Trans to D-Head	235.71 rad/sec ²
D-Head to R-Head	78.80 rad/sec ²
Overall Results	248.40 rad/sec ²

Vertical accel (ft-lb)



Max Engine RPM	2100.00	Air Bag Height	
In Top Gear:	1.00	Front Ride Height	0.00
Top Gear Ratio:	1.00	Rear Ride Height	0.00

Comment:

The user would then enter all the measurements enter on the work

Print to printer(F1)	Print as: bmp(F3)	Cancel (ESC)
----------------------	-------------------	--------------

191

194

193

FIG. 19



Roadrunner

2-Axis Main with Auxiliary and 2 Axes

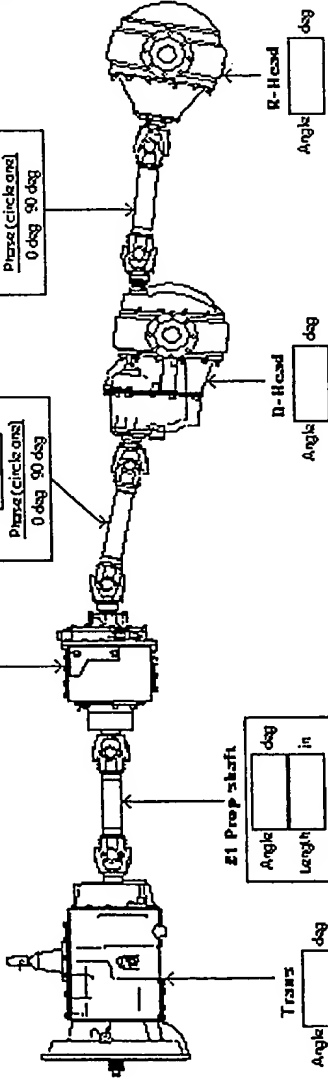
Driveline Angle Analyzer

Frame Angle

Auxiliary Angle

#2 Prop shaft Angle Length Phase (click one) 0 deg 90 deg

#3 Prop shaft Angle Length Phase (click one) 0 deg 90 deg



E1 Prop shaft Angle Length Phase (click one) 0 deg 90 deg

D-Head Angle

R-Head Angle

Before measuring Angles

1. Check front and rear wheels

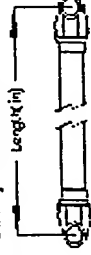


2. Place yams in NEUTRAL
3. Release parking brake

Measurement Directions

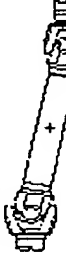
To Measure Driveline Length:

All drive shaft lengths are measured from the yoke end cap centers.



To Measure Component Angles:

Positive angles (+) - The end closest to the front of the vehicle is higher than the end furthest from the front of the vehicle.



Front of Vehicle

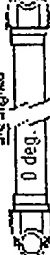
Rear of Vehicle



Negative angles (-) - The end closest to the front of the vehicle is lower than the end furthest from the front of the vehicle.

To check Driveline Phasing:

Driveline Phase is Zero degrees when the yoke end caps are aligned




Driveline Phase is 90 degrees when the yoke end caps are 90 deg aligned



Track Unit #	Trans Serial #	Steer Axle Tire Size	Asie Manufacturer
Fleet Name	Clutch Manufacturer	Drive Axle Tire Size	D-Head Serial #
Fleet Account #	Clutch Size	Main Driveline Series	R-Head Serial #
Track Manufacturer	# of Clutch Springs	Interaxle Driveline Series	Vehicle Mileage
Track Model	Clutch Description	Auxiliary Trans Model #	Vehicle Build Date
VIN #	Engine Type	Auxiliary Trans Serial #	Tested by
Trans Model #	Wheel Base	<div>Print E4</div> <div>Cancel Esc</div>	

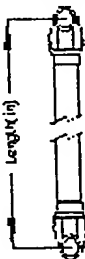
FIG. 20

Before measuring Angles

- 
1. Clutch pedal and rear wheels
 2. Place transmission in NEUTRAL
 3. Release parking brake

Measurement Directions

To Measure Driveline Length:
 All drive shaft lengths are measured from the water separator.



To Measure Component Angles:

Overlives angles (+) = The end closest to the front of the vehicle is higher than the end farthest from the front of the vehicle.



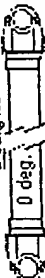
අනුමත



Negative angles (-) - The end closest to the front of the vehicle is lower than the end furthest from the front of the vehicle.

To check Driveline Phasing:

Drilling Phase is
Zero degrees
when the yoke and caps
are aligned



Drilling Phase is
80 degrees
when the yaws and
are not aligned



The diagram illustrates the components of a Roadrunner Driveline Angle Analyzer. It shows a front axle connected to a front prop shaft, which is then connected to a rear prop shaft, and finally to a rear axle. Various sensors and measurement points are indicated:

- Front Axle:** A sensor labeled "Front Axle" with a box for "Angle" and "deg".
- Front Prop Shaft:** A sensor labeled "F1 Prop shaft" with a box for "Angle", "Length", and "deg". Below it is a box for "Phase Angle (circles and)" with "0 deg" and "90 deg".
- Prop Shaft:** A sensor labeled "E2 Prop shaft" with a box for "Angle", "Length", and "deg". Below it is a box for "Phase Angle (circles and)" with "0 deg" and "90 deg".
- Rear Prop Shaft:** A sensor labeled "E3 Prop shaft" with a box for "Angle", "Length", and "deg". Below it is a box for "Phase Angle (circles and)" with "0 deg" and "90 deg".
- Rear Axle:** A sensor labeled "R-Axle" with a box for "Angle" and "deg".

The diagram also shows the "Trans" (Transmission) and "R-Head" (Rear Head) components. The "Roadrunner" logo is visible in the top left corner.

Track Unit #	Trans Serial #	Steer Axle Tire Size	D-head Serial #
Fleet Name	Clutch Manufacturer	Drive Axle Tire Size	T-Case Model #
Fleet Account #	Clutch Size	Main Driveline Series	T-Case Serial #
Track Manufacturer	# of Clutch Springs	Interaxle Driveline Series	Vehicle Mileage
Track Model	Clutch Description	Front Axle Driveline Series	Vehicle Build Date
VIN #	Engine Type	Axle Manufacturer	Tested by
Track Model #	Wheel Base	<div> <div>Print</div> <div>Cancel</div> <div>Esc</div> </div>	

FIG. 21